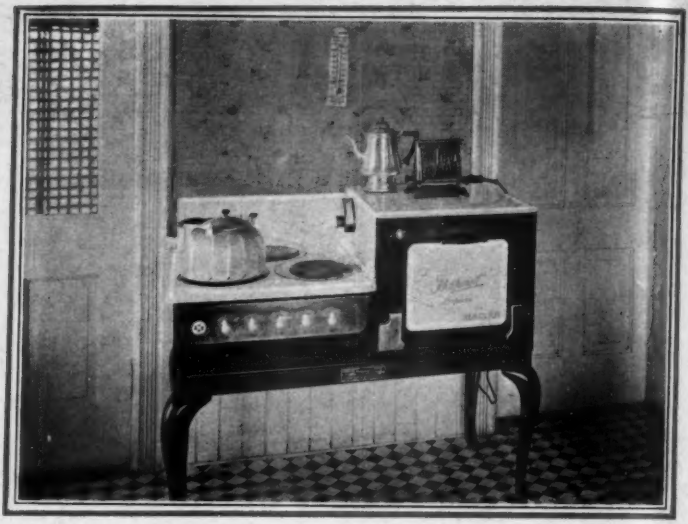
DEALER EDITION

Electricity on the Farm

LIBRARY
RECEIVED
1928

May 1928

An Electric Washer—the Dream of Every Farm Woman



Banishing the Wood Box

TODAY, in thousands of farm kitchens all over the country, Hotpoint Electric Ranges have replaced old-fashioned cook stoves, banishing forever wood boxes, smoke, soot, ashes and all that goes with old-type cooking methods.

A Hotpoint Electric Range is MODERN. It is ready to use any instant you want it, at the turn of a switch. You can have any heat you want, exactly the amount you want—always the same with no guesswork. It's clean, quick, convenient. And several hundred thousand women will tell you it is *fast* and economical.

You'll never know how much easier and better your cooking can be until you do it electrically. And when you select an electric range, look for the name Hotpoint. That's your guarantee of highest quality, greatest economy and a lifetime of faithful service. Ask your electric company for full information.

Hotpoint is the world's largest manufacturer of electric ranges, electric water heaters and household electric heating appliances. This leadership was won by Quality and Price-Value. Now tremendous production economies make it possible for you to get even more value per dollar when you select Hotpoint. Consider this when you buy an electric iron, toaster, percolator, water heater—or any one of over a hundred Hotpoint products.

Hotpoint

EDISON ELECTRIC APPLIANCE CO., Inc.
5622 W. Taylor St. Chicago, Illinois
A GENERAL ELECTRIC ORGANIZATION

THERE'S A HOTPOINT ELECTRIC RANGE FOR EVERY PURSE AND PURPOSE

MYERS

Self-Oiling Water Systems

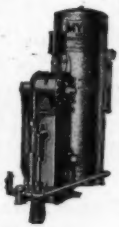
A REGISTERED TRADE NAME

THERE simply is no finer investment for the farm, ranch or suburban estate than an electrically operated *Myers Self-Oiling Water System.* At surprisingly small expense you can obtain service from neighboring power lines—and then with a Myers you are prepared to enjoy that greatest luxury of all the ages—RUNNING WATER.

Why not decide today—*definitely*—to make this the next improvement on your property? Whether your requirements are large or small, there is a Myers System to fit your needs correctly and economically.

Fifty years of experience and the resources and facilities of the immense Myers factories are behind the service these units offer you—you are protected with our guarantee of complete satisfaction.

Myers Self-Oiling Water Systems are also made for operation by hand, wind or gas engine and for both deep and shallow well service. They are all a part of the big established Myers line of hand and power pumps, pump jacks, spray pumps, hay and grain unloading tools and barn and garage door hangers.



See your dealer or write for catalog and free water service suggestions.

The F. E. Myers & Bro. Co.

363 Orange St. Ashland, Ohio

Manufacturers for more than 50 years of Myers Pumps for Every Purpose, Hay Tools and Door Hangers.

Electricity on the Farm

Vol. 1 MAY 1928 No. 11

CONTENTS

	Page
Editorials	7
The Electric Washer—A Great Emancipator, by Florence Smith	8
Keep Your Appliances Oiled, by R. E. Pierce	11
Which? Man Power or Horsepower on Your Cream Separator, by Frank J. Zink	12
Water System a Great Labor Saver	13
Fill Silos Electrically, by H. J. Gallagher	14
Between the Incubator and the Brooder, by J. C. Scott	17
Does the Liberal Use of Electricity Pay? by R. U. Blasingame	19
Radio Notes	25
Electrical Housekeeping	26
Sparks and Chaff	28
Title Contest	29

Issued Monthly by
CASE-SHEPPERD-MANN PUBLISHING CORP.
Successors to Farm Light and Power Pub. Co.
Editorial-Executive Offices, 225 W. 34th St., New York
Western Office, 30 N. Michigan Ave., Chicago
KARL M. MANN, *President* I. H. CASE, *Vice-Pres. and Gen'l Mgr.*
FRED SHEPPERD, *Editor*
H. T. MURRAY, *Western Manager* K. H. GORHAM, *Advertising Manager*
T. A. WOOD, *Advisory Editor*
Subscription price, 75 cents per year; single copies, 10 cents

Contents copyrighted 1928 by Case-Shepperd-Mann Pub. Corp.

Now!—An Electric Milker

THAT DUPLICATES THE NATURAL SQUEEZE

Note the double-impulse action; squeeze, suction, then reverse, as shown in the diagram.

At last an electric milker has been perfected that duplicates the natural action of the calf's mouth and tongue. Full details will now be sent to any farmer without obligation.

IN THE NEW Sharples Milker a patented "compressed air squeeze" is employed that gives a combination of massage and suction exactly like the calf nursing. This method is far more gentle than the most careful hand milking could ever be. It automatically stimulates udder circulation. Thus the cow not only gives up her milk quickly and easily to the Sharples, but there is also a positive tendency to increased milk flow and to a lengthened lactation period.

With the improved Sharples there is no need for pipes or traps — no springs or special "harness"—no complicated adjustments. And no installation. You simply wheel the Sharples into the barn, plug in the electric cord, and start milking immediately.

If you milk ten or more cows, you should know the facts about this new Sharples. Simply write today for details.

DEALERS WRITE FOR NEW PLAN

The Famous Sharples Electrically Operated Separator at a New Low Price!

Sharples recently announced sweeping price reductions on the world famous tubular separator. These reductions are now extended to the electrically operated models. So you can *now* obtain what is generally admitted to be the most efficient separator on the market for far less than you would expect to pay for an ordinary separator. Sharples models without Motor now priced as low as $35.

Sharples Separator Co.

Dept. E-10, Sharples Bldg., Chicago, Ill.

Electric Milking is Clean and Quick

MODERN food manufacturers have found that by replacing hand operations with automatic machinery they are able to increase production and reduce costs—and at the same time they keep the food cleaner and more wholesome.

Modern dairy farmers have likewise proved that with electrical milking they can care for a larger herd, in less time, with higher profits—and that it is much easier to keep the milk up to standard.

Many experienced farmers have learned the wisdom of buying electric equipment made by General Electric, whose products are known throughout the world. The G-E monogram on MAZDA lamps, motors, control, and other electric devices represents the highest standards of engineering efficiency.

Ask Your Power Company

If your farm is on or near an electric power line, ask the power company for a copy of the new G-E Farm Book which explains more than 100 uses for electricity on the farm.

GENERAL ELECTRIC

Electricity on the Farm

VOL. I MAY 1928 No. 11

Electricity and Certified Milk A producer of certified milk in New York State recently remarked that he would not attempt to "produce certified milk without electricity." While such milk has been, and still is being furnished by farms which have not the benefits of electric current, still electricity does make the production of high grade milk with low bacteria count far easier than is possible with the older methods. Electrical sterilization, either wet or dry method, simplifies this process and thus insures better work; more efficient lighting means greater cleanliness around dairy buildings; and the electrical milker and electrical clipping machine also do their share in keeping the milk standard high.

It can be easily understood why the dairy farm that has once used electricity for the production of certified milk would hesitate to "produce certified milk without electricity."

Forcing Plants by Electricity Experiments which seem sufficiently comprehensive indicate that certain plants can be forced in development by the use of electric lights. Just what this will mean to the early flower and garden truck grower is still to be determined.

One thing is certain however: electricity is going to play an important part for the florist in the future.

Where timeliness in getting his products on the market means a marked increase in selling price, the florist can profitably invest in electric current to get his plants ready for the market on just the day they are wanted.

It must not be inferred from the above, however, that the use of electric light is profitable or desirable for all flower growers. On the contrary, local conditions alone must determine the advisability of artificial illumination in hot-houses. In the June issue will appear an article on this interesting subject.

The Electric Washer – A Great Emancipator

It Is Freeing the American Farm Woman from One of Her Most Irksome Tasks

By FLORENCE SMITH

NO single appliance on the electrified farm does as much for the farm woman as the electric washer. Maybe it is not entirely the amount of work it saves the farm woman that makes it so popular, for, at the same time, it reduces one the routine tasks which recur every week with painful regularity, to a job that is now considered almost incidental. It is not entirely the labor that makes tasks distasteful—it's more often the fact that they are routine and time-consuming that makes us dislike them. Wash day usually calls a halt on all other household work. With the electric washing machine this halt is minor, indeed, for other work can be kept under way while the electric washer does the heaviest part of the laundry work.

Just as sure as electricity brings light to the farm home, it also brings lightened work—lending its most welcome hand to laundry work.

The American farm woman who is blessed with an electric washing machine fully appreciates her emancipation from the old wash board and hand wringer.

Now, as a matter of interest, let us see how some of our foreign sisters do their washing. The Italian farm woman, characteristic of many of her foreign sisters, utilizes streams, lakes, and other bodies of water as her tub. But she is slightly in advance of some of her sisters in that she at least employs a wooden "wash board." At the top of the following page is shown a typical Italian "washing machine."

Maybe she gets her clothes clean, but it seems to me that either her suds would be pretty weak or else she would use a lot of soap. Maybe she depends more upon elbow-grease than she does upon the soapmaker.

Italian Woman Doing Her Washing On a Lake Shore.

Mexican women, on the other hand, feel that real brisk rubbing of their garments on stone is necessary to get the dirt out. Maybe that is so, but I am wondering how long the clothing lasts under this vigorous treatment.

The Mexician washing machine might be said to consist of a stone block in the top of which is hewn out a small basin. Water is placed in the basin and the garments are rubbed on the stone surface while submerged. Fig. 2 shows a "Community Laundry," in which the women of the neighborhood all come to separate the dirt from the clothing.

On the island of Formosa, just off southern China, wash

Mexican "Wash Tubs" Are Hewn Out of Blocks of Stone.

Fig. 4. Running Water Helps Portuguese Women.

day is quite a social function as is indicated by Fig. 3. Here the women congregate on Monday, or whatever happens to be their washday, and wash out the news of the day as well as clothing. Stones serve as wash boards and good strong arms do the rest.

Farm women in Portugal at least have plenty of fresh running water for their laundry. This insures sanitary work if not easy work. Note the inclined slabs of rock which serve as wash boards, shown in Fig. 4. New "wash boards" must certainly be hard on the garments, although after they have been smoothed off by constant use they would probably do little damage.

The men are well trained in Zanzibar, a small island off the east coast of southern Africa. Here they do the laundering in concrete vats, built by British sanitary engineers. Fig. 5, which shows a public laundry, also gives a pretty fair indication of the popularity of white clothing.

Fig. 3. Wash Day Is Quite a Social Function in Formosa.

Fig. 5. The Men Do the Washing in Zanzibar.

But of all methods of washing clothes, the electric washer stands first. Not only does it produce cleaner garments, and more sanitary, but it is also far easier on the garments themselves.

Keep Your Appliances Oiled

By R. E. PIERCE

IT is common knowledge that machinery must always be lubricated. Probably three quarters of motor trouble is due to improper lubrication. In order to have your motors operate efficiently you must give this important subject the consideration it deserves. Neglect of oiling will cause excessive wear on bearings and other working parts, loss of power and an accumulation of grit which damages the oil and causes inefficient lubrication.

A definite program should be used in lubrication, that is: your motors should receive attention at stated periods and not wait until trouble occurs. It is much easier to prevent damage than to repair a damaged motor. Do not wait until your washing machine squeaks and groans, oil it at least once a month. Be sure to use the proper grade of oil; if you are not sure about the kind of oil to use consult your electric contractor or your local lighting company, they have a supply of this oil on hand and this will save you trouble if you should use the wrong kind of oil. If you are not acquainted with the lubrication of your appliance it would be well to have the lighting company send their service man to your house to do this work for you and to give you complete instructions which will enable you to do it next time.

INDEXED

Which?

Man Power or Horsepower

on Your Cream Separator

By FRANK J. ZINK
Assistant Agricultural Engineer
Iowa State College

ON one of the farms of the Iowa Project on Rural Electrification located at Garner, Iowa, is an electric motor driven cream separator. The machine is one of those sold regularly out of implement stores and hardwares and may be purchased equipped with the electric motor drive attachment. Also, the motor drive attachment may be purchased for practically all of the existing machines now hand operated.

Its Performance

Records obtained on this machine in connection with its use on a dairy farm tell essentially the same story as would similar records on practically any other electric motor driven separator.

The machine is rated at being able to separate 1100 pounds of milk per hour. It is driven by a one-quarter (¼) horse power electric motor from the ordinary 110 volt electric supply and may be plugged into any lamp socket.

For a one year period the machine required 54 kilowatt hours of electricity to separate the milk from a herd, averaging twenty-one Guernsey dairy cows, which produced during the one year 143,755 pounds of milk. The milk record was obtained from the cow testing association figures and the electricity was measured by an electric meter.

These figures mean that approximately ¼ of a kilowatt hour of electricity is required to separate the milk from each cow during each month.

At the separating rate of 1100 pounds of milk per hour it would require 131 hours of continuous running to separate

this quantity of milk. The machine actually ran 160 hours during the year showing that about 22% of the energy was used for bringing the machine up to speed and for operating idle. In operating these 160 hours the electric motor performed a very monotonous and irksome task, that of turning a crank. These 160 hours represent at least 2 full weeks of a man's working time. Based on a cost of 25 cents an hour for labor these 160 hours are worth just $40.00, assuming that the time saved turning the cream separator crank could be put to useful work about the milkroom.

Costs

However, we have not stated as yet what it costs to own and operate this power equipment. These attachments cost anywhere from $35.00 to $50.00. Considering the first cost of the attachment to be as much as $50.00; a year's carrying charges, of depreciation and interest on investment and all but power cost would be approximately $7.50. This would leave $32.50 to pay for the 54 kilowatt hours of electricity. More than likely the power would cost but a few cents a kilowatt hour and after paying for the power there would be left $27.00 or more as net profit. In this discussion there has been nothing stated with regard to savings of butter fat due to the maintenance of a more steady separating speed than found in hand separating. While this point has not been discussed it is generally recognized as being of very great importance and may no doubt be the means for many more dollars in savings.

Water System a Great Labor Saver

"Our water system is a great labor saver and is very complete," says Mrs. James C. Downey of Jersey County, Illinois, in the *Illinois Farmer*.

"In our cellar we have two tanks of 220 gallons capacity, one holding well water piped from a well 40 feet away, the other containing cistern water piped a distance of 10 feet. Between the two tanks is our electric pump. We have four valves in the piping, allowing us to switch from well to cistern as is necessary. One pumping a day for each tank is usually enough, except on wash days when more water is used.

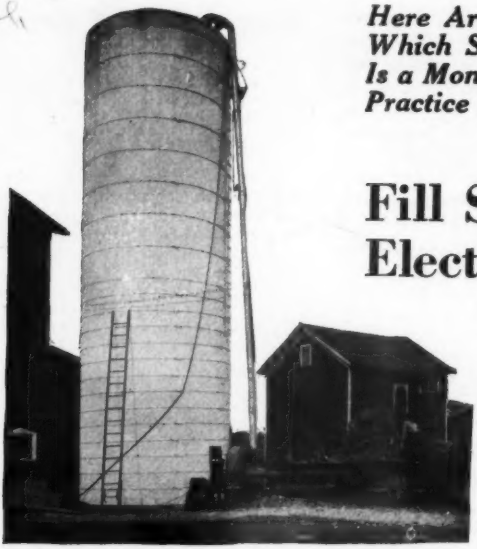
"At the sink we have hot and cold soft water and cold hard water. Here I wash my separator and set my tubs on wash days. In the kitchen we have a 60 gallon tank attached to the kitchen range, a porcelain sink with drain board and hot and cold soft water faucets.

"Up stairs is the bath room, in which are a tub with hot and cold soft water connections, lavatory with hot and cold soft water, and the toilet flush is hard water. On the first floor is a tiny room, containing lavatory and toilet with the same water connections as in the bath room.

"In the cellar we have two faucets with hose connections, making it easy for the housewife to scrub the cellar floor. In the same part of the cellar is a shower bath with a mixing faucet for hot and cold soft water.

"As originally installed, the entire outfit was attached to the cistern, but we found we had not enough cistern capacity to keep us in soft water for any length of time, so we put in the additional tank for the well water.

"We live on a 120-acre farm two miles from town, and are in the township high school district in which is located a very good high school.



Here Are Figures Which Show That It Is a Money Saving Practice to

Fill Silos Electrically

By
H. J. GALLAGHER
Engineering Experiment Station, Michigan State College

SILO filling and ensilage cutting methods and power costs have stirred up considerable diversity of opinion throughout the country. Mr. Gallagher's article below is enlightening and will materially help in clearing up the problem. One big significant thing to note here is that the cost of electric energy to fill these silos was practically nil as compared to other costs.

Here are the essential points which deserve consideration: The very low cost to fill a silo electrically; that a 5 H. P. motor has been used successfully for this job; that slow speed requires less power than high speed; that the unit described by Mr. Gallagher is very compact, easily moved about, can be taken apart easily or motor used separately; also, in this layout the pulleys cannot get out of line; the unit can be used for grain elevating.

Another point which deserves emphasis is the placement of the idler. The idler should be quite close to the motor pulley to prevent slippage. A great many people do not know this and it causes much trouble and annoyance. The idler must be tight enough or heavy enough to give the proper belt tension.

People used to think that the power unit would have to be a 15 H.P. or more. This idea arose from the use of the tactor for this work. When an electric motor can do the work at a reduced cost, use less men, and do it better than it used to be done, it is time for us to learn these facts. It will take longer

to fill a silo, to be sure, but that will react to the farmer's benefit by enabling him to put more ensilage in it, getting it in before it wilts, making it unnecessary to return borrowed labor and many other things.

And now for Mr. Gallagher's figures:

Of the five silos on the test farms, four were filled last fall with a small size ensilage cutter operated by a 5 h.p. electric motor. The owner of the fifth silo used his tractor for power in filling.

The following table is a summary of the field data taken:

Factors considered	Silo No. 1	No. 2	No. 3	No. 4
Height of silo	32	37	40	28
Diameter of silo	10	10	12	10
No. men in crew	6	2	7	6
†No. men in silo	0	0	0	0
Distance of haul in rods	20	100	100	80
Tons ensilage cut	40	53	65	30
Total filling time in hours	8	18	15	3¼
Running hours of machine	6	7.5	12	3¼
Average tons per hour	6⅔	7.7	5.4	8
K. W. H. used	41	66	53	18
K. W. H. per ton	1	1.25*	.81	.6

† Tramping ensilage was considered unnecessary. The weight of two or three men compared to the weight of the corn is insignificant.

* Low voltage of 180.

Motor Used: General Electric, 5 h.p., single phase, 220 volts, 1800 r.p.m.

Cutter: Blizzard No. 400, 11″ throat, 7″ pipe open hood; No. knives—3; Length of cut ½″; Size of pulley on cutter—12″; Size of pulley on motor—3½″ (determined after using several sizes); Belt 4″ four ply rubber; Rated speed of cutter—800 r.p.m.

This speed caused plugging of the pipe. Best results were obtained at the slower speeds of 490-520 r.p.m.

In the case of silo No. 3, the corn was short and dry, the butts of the bundles large and the crew unaccustomed to proper feeding. The machine was overloaded to the extent of opening the automatic cut-out twelve times. The cut-out protects the motor and cutter from injury.

Time required in cutting the corn in the field was not considered. All corn was binder cut and fed in bound bundles.

Mounting the motor on the frame of the ensilage cutter resulted in a compact unit that was easily moved about and required no staking down when on the job. The pulleys were always in line and the idler insured a good belt wrap. The idler was attached to a long lever arm and the belt tension was easily reduced so the motor could be started without load.

Filling silos in this manner has many advantages over the old method of custom hiring a large power outfit and using a large gang of men. The ex-

change of labor is materially reduced which means fewer days away from the farm during a busy season.

Slower filling means more ensilage in the silo. It is not necessary to have a field of corn cut in advance and possibly wilting a few days in the sun before a custom machine arrives.

The smaller gang is easier and cheaper to board, this saving in cost alone would generally pay for the current used in filling.

This same outfit is now in use cutting corn fodder and corn stover on two farms. The farmers alternate the use of the machine and cut a week's feed at a time. This method fits very nicely into the corn borer control program effective in Michigan.

Removing the three knives converts the machine into an efficient grain elevator.

The motor is easily changed from the cutter to a portable truck and is available for use to any of the farms desiring its service for sawing wood or jobs of like nature.

Compact Unit Secured by Mounting Motor On Frame of Ensilage Cutter.

Between the Incubator and the Brooder

The Electric Baby Chick Nursery Has Solved Another Problem for the Poultryman

By J. C. SCOTT

ELECTRICITY played a large part in preserving the infant life of tens of thousands of the 6,000,000 baby chicks which were hatched in Western Washington in 1927; most of them in hatcheries where 50,000 or more are hatched each season.

Electric Baby Chick Nursery

This picture shows one end of the room where the chicks are examined—the weak ones taken out before delivering to poultrymen. Up to this time they have lived under ideal conditions, made possible by the electric heater, automatically regulated, and the electric fan to keep the air in circulation.

Nearly all poultrymen in this territory buy what are commonly known as day old chicks. Most of them are from 48 to 72 hours old when the poultryman receives them and puts them under the brooder hover.

When taken from the incubator, the baby chicks are put into cartons (each one holding 100 chicks), where they remain until they are placed in the brooder.

In order to deliver good, strong chicks, it is absolutely necessary that they are not overheated or have insufficient heat, also that they have plenty of fresh air during the first few hours of their life.

This is being fully accomplished by means of an Electric Baby Chick Nursery devised by the Agricultural Service of the Puget Sound Power & Light Company in co-operation with

Mr. E. W. La Breck, owner of the Kluckalee Hatchery at Montesano, Washington.

"We do everything we know how to do," Mr. La Breck told me recently, "to produce and deliver a good chick, and the electric nursery, or similar arrangement, is necessary to do it.

"When the chicks are taken out of the incubators, they are put into the nursery. There they are kept until they are from 48 to 72 hours old. Then all the weak ones are culled out and only the strong babies are delivered."

Keeping Air Fresh

We were taken into the nursery, and although there were 3000 baby chicks in the very small room, the air was fresh. Thermometers in different parts of the room indicated that the temperature was kept very close to 72 degrees in all parts of the nursery.

The room is 6 feet wide, 13 feet long and 7½ feet high. There are two sets of shelves (one set on each side of the room) which are 7 feet long, on which the baby chick cartons are placed. These shelves are 10 inches apart, and made of lath in order that the air can circulate on all sides of the cartons. There is room for 6000 baby chicks and still plenty of space left for the culling operations.

An 8-inch electric fan, set on the floor of one end of the nursery, keeps the air in circulation continuously, and thereby keeps the temperature the same in all parts of the room. An 8 x 8 inch hole in the wall close to the floor behind the electric fan, and two more holes of similar size in the ceiling, make provision for plenty of intake and outlet of air. These holes are provided with small sliding doors, so that they can be closed or opened to any extent desired.

How Heat Is Supplied

The heat is supplied by a 5 kilowatt electric heater operated by a thermostat, or automatic control, which is regulated to keep the temperature at 72 degrees. The heater has three switches, by which three different heat coils can be turned on or off, as conditions demand. It is only occasionally, when the door is being opened continually, that the full 5 kilowatts are turned on.

> "In order to deliver good strong chicks, it is absolutely necessary that they are not overheated or have insufficient heat; also that they have plenty of fresh air during the first few hours of their life."

"We have good sires, good dams, good hatch and good chicks," said Mr. La Breck, "and electricity plays an important role in our getting good results.

"Besides the electric nursery, we have two Petersime electric incubators, and we do all our brooding with electricity."

Does The Liberal Use of Electricity Pay?

Floyd Merkle Farm

Here's a case where the Farmer, and the Power Company as well, are benefited

By R. U. BLASINGAME
Professor of Farm Machinery
Pennsylvania State College

PENNSYLVANIA was not one of the first states to enter the farm electrification movement on a large scale, but it is more than making up for lost time. Professor Blasingame tells, in the following paragraphs, just how the farmers in that state are making possible the wide extension of rural lines and how they are profiting from the use of electricity in place of human labor.

How would you vote if you were a member of the board of directors of a power company, and a group of farmers should apply for electric service? Let us suppose, for instance, that your company is located in Pennsylvania and is serving the towns and cities in a certain territory. Your engineers have made a survey on a mile of line in a *town* of, say, 60,000 people. They find that 300 people are on this mile of line and their minimum guarantee of revenue is $1.00 per month each. That would mean $300 per month; but these people's bills average around $3.00 per month, which amounts to $900.00. The fact is, this study was actually made in Harrisburg, Pa., and on a mile of line which is about an average for that size town.

Now, let's go back to the application of these farmers. They want a mile of line built which may cost about $1,600.00. A charge of 2 per cent per month is made as a minimum guarantee to your company on this line, which would amount to $32.00. This $32.00 is divided equally among the number of farmers receiving the service. When $32.00 per month is compared to the $900.00 you discover that the city line brings in about 28 times the revenue of the rural line. The

study in Harrisburg did not include the industries which may bring in each many times the revenue of the mile of city line.

Many Farmers Get It

With these figures would you be very keen about the rural extension? Well, that is for you to answer. The electric utilities are answering that question all over this country by building rural lines by the hundreds of miles each year, for the past few years, and investing millio of dollars in the enterprise. In Pennsylvania, for instance, during seven months, 547 miles of rural electric lines have been built in 1927, at a cost of $1,600,000, and which added 12,500 rural customers. This amounts to almost 60 per day, including Sundays. Who has shown any greater faith in the future of agriculture than this? The budget of one company alone in the State shows an item of about a million and a half dollars for 1928, to be expended in rural line extensions.

On the Floyd Merkle Farm

There is an urge behind the power companies to develop rural electric service. This urge is created by its use, by such farmers as Floyd Merkle, who owns a 90 acre farm near Hamburg, Pa.

This farm is operated with two horses and a farm tractor. The tractor furnishes the power to operate a grain threshing machine, and an ensilage cutter and blower, which is borrowed, for filling the silo on this farm. These two pieces of farm equipment are used only a few days in the year. The balance of the power is furnished by electricity.

The farm is operated as a general farm, with a fruit orchard in connection therewith; also, an average of 400 to 500 white leg-

Fig. 6. Here's a Corner of the Electrified Shop On the Merkle Farm.

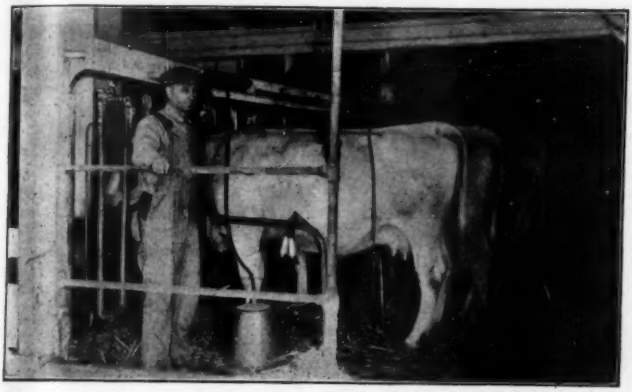


Fig. 4. Floyd Merkle's Milking Machine.

horn hens, 13 cows for dairy purposes, and 7 heifers.

The products of the farm are generally retailed in Hamburg and vicinity, either on the milk route or by special deliveries.

No Hired Help

The work is done entirely by the farmer and his family, with the aid of proper equipment. All of the buildings on the farm are wired for electric lights as follows:

Farm repair shop.....	2 lights.
Milk house.....	2 lights.
Farm yard lighting.....	1 light.
Barn lighting.....	7 lights.
Chicken house.....	9 lights.
Pump house.....	1 light.

The chicken house lighting is so arranged that a time switch is used to turn on the lights early in the morning so as to give the hens an early start, with the result that the egg production is increased by an appreciable amount during the winter months and early spring. This is considered a good investment by Mr. Merkle. The house and barn are equipped electrically, and the farmer and his family have all of the conveniences of the city and the beauties the beauties of the country. The house contains nine rooms, wired and equipped with 20 lamps distributed throughout, with a light on the front porch which illuminates the yard and walks. In the kitchen is installed an electric range of 6 K.W. capacity, Fig. 2, and there is an electric iron at hand. Mrs. Merkle is also provided with an electric washing machine and an electric cleaner.

The Water System

The house is supplied with water from a spring at which is installed a shallow well automatic pump with a fresh water valve, operated by a ¼ H.P. electric motor. The pump is shown in Fig. 3. The water supply for the stock at the barn and for the milk house runs by gravity to the points of use from a spring located at

Work on the Merkle farm is done entirely by the farmer and his family—with the aid of electricity.

some distance from the farm buildings.

The milking machine is a two cow outfit, and is conveniently arranged for the purpose intended; Fig. 4. The principle of operation is that for each bucket a suction pump is attached to a rod moving back and forth. This machine has been in service between 12 or 14 years, and has given complete satisfaction.

Well-Equipped Feed House

In the feed house illustrated in Fig. 5 a 1 H.P. motor is belted to a line shaft, running at a speed of 340 R.P.M., from which the various machines are operated. The equipment and its use are as follows:

1. The bone-cutter requires the full one horse-power to operate. It is used to cut bone for chicken feed.
2. The feed grinder is a small power or hand type, and requires about ½ to ¾ H.P. to operate. It is used mostly at the same time the milking machine is used. The capacity of grinder is 2 bushels per hour per H.P. This grinder will prepare feed in all of its forms as well as properly grind corn meal for table use.
3. The corn sheller is an ordinary semi-power type.
4. The concrete mixer is a 2½ cu.ft. semi-power type, and when not in use for mixing concrete for general purposes, it is used to mix the various feed combinations for the stock on the farm.
5. The grind-stone is an ordinary hand type with a pulley attached for power application. Its uses are varied, and it helps to keep the house and farm equipment in condition.

Two or three pieces of equipment can be used at one time, with the exception of the bone cutter.

Repair Shop

The repair shop is a small building, the interior of which is shown in Fig. 6, conveniently located, and in addition to a lot of

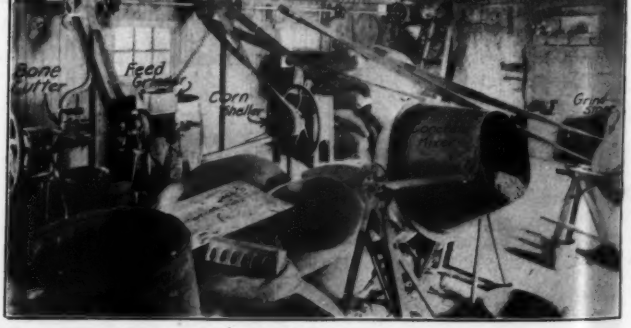


Fig. 5. Feed House On Merkle Farm.

miscellaneous items, the shop contains a small portable hand-operated blower and forge. The ¼ H.P. motor is belted to a short shaft operating at 365 R.P.M., to which are belted a ratchet drill press of a size sufficient for general repairs, and a 5-inch emery wheel to sharpen tools of various kinds.

Investment in equipment at the Merkle farm is as follows:

Electrical wiring complete, with fixtures, including the wiring for the 1 H. P. motor		$250.00
2. Wiring for electric range		45.00
3. Home equipment:		
a. Range	$190.00	
b. Washing machine	100.00	
c. Vacuum cleaner	40.00	
d. Electric iron	5.00	
		335.00
4. Repair shop:		
a. Shafting, belting, etc.	$26.00	
b. ¼ H. P. motor	15.00	
c. Tool and sickle grinder	13.00	
d. Drill press	18.00	
		72.00
5. Feed Preparation Equipment:		
a. 1 H. P. motor	$70.00	
b. Shafting, pulleys, etc.	40.00	
c. Belting	33.00	
d. Green bone cutter	28.00	
e. Feed grinder	16.20	
f. Corn sheller	14.75	
g. Concrete mixer	26.00	
h. Grind stone	11.00	
		238.95
6. Automatic shallow well water system, exclusive of piping		108.00
7. Milking machine; two-cow milker, complete		185.00
Total investment		$1,233.95

A great deal of this equipment was on the farm long before electric power was installed. One of the very interesting things about this is that Mr. Merkle has taken full advantage of the power for the operation of his equipment. Mr. Merkle is a man of initiative and good business sense. He recognizes the fact that electrical energy is the cheapest and most convenient way to operate this equipment.

Fig. 2. 6 K.W. Range Used by Merkles.

Fig. 3. Pump Installed at Well.

Following is a summary of the current used on this farm:

K.W.H. Used

1926	K.W.H. Power	K.W.H. Light	Total K.W.H.
February	54	58	112
March	58	36	94
April	51	18	69
May	...	...	...
June	192	154	346
July	...	...	212
August	...	...	216
September	...	...	310
October	...	...	259
November	...	...	184
December	...	...	220
January, 1927		...	121
Total			2,143
Monthly average, 12 months			179
Monthly average, last 9 months			207

Power Company Showing the Way

The power company furnishing the current to the Merkle farm

are very enthusiastic about the future of rural electrification. These people have organized an agricultural department and have a truck built similar to a traveling library which is equipped with electrical appliances, even to a water system. This truck is driven over the territory demonstrating the use of electrical apparatus in the farm homes. They also have a truck on which is mounted a three-horsepower motor for demonstration purposes.

Here is a record of some of the tests they have conducted on the farms of their territory:

Experiences With a 3 H.P. Portable Farm Motor

1. Corn Fodder Shredding:

Operation—100 sheaves of fodder shredded in 52 minutes using 2½ K.W.H. Average horsepower of 3.6.

Comparison—Farmer claimed it required 2 gallons of gasoline using an 8 H.P. single cylinder gas engine.

2. Feed Preparation:

A. Corn cracking.
Grinder.
Operation—2 bushels of corn cracked in 3 minutes, 45 seconds, using ¾ K.W.H. for operation.

B. Making Chop.
Operation—2 bushels of rye and oats mixed, required 1½ K.W.H.
Two bushels of corn on cob required 1 K.W.H.

3. Wood Sawing:

A. 18" circular saw, sharp.
Operation—About 1½ cords wood. Seasoned apple, cherry and oak sills, sawed in 46 minutes with 1 K.W.H.

B. 24" circular saw, dull.
Operation—About 1½ cords wood in 1 hour and 15 minutes required 2½ K.W.H
Farmer said it usually takes 2½ gallons of gasoline for his tractor to do the same work.

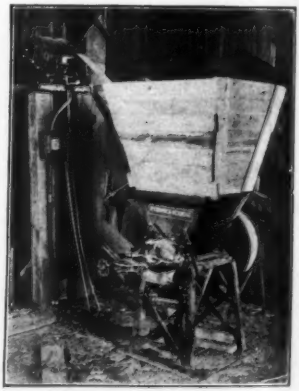
4. Conveying grain from Thresher to Granary:

16" blower through stove piping.
Operation—25 bushels wheat—40 minutes, using 1 K.W.H. of energy.

Makes Feed Grinder Automatic

At the farm of Mr. J. W. Williamson, near Clifton Springs, N. Y., a 2-h.p. Century Motor is used to drive a feed grinder as shown in the picture herewith. In order that the machine will stop automatically when the hopper is nearly empty, a device was rigged up which is proving satisfactory. It consists of an arm pivoted at one end on the pedestal supporting the motor. The other end of this arm is connected to a weight which rests on top of the grain in the grinder.

At the center point of the arm is attached a cord as shown in the picture. This cord passes through



a pulley attached to the floor and back to the handle of the switch.

When the grain in the hopper gets low, and when there is but a few moments more for the grinder to run, the weight attached to the arm reaches such a position that it opens the switch in the safety switchbox, cutting off the current and stopping the motor.

Where such an arrangement is to be rigged up, it is necessary to use a quick opening switch so that it will snap open when the proper moment arrives, rather than being drawn open slowly and thereby forming an arc.

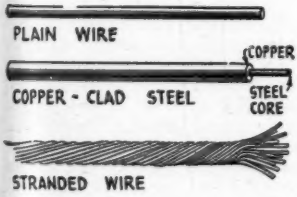
Radio Notes

Antenna Wires

There is considerable latitude in the choice of wire for the antenna, such as small wire and large wire, solid wire and stranded wire, bare wire and insulated wire, as well as wires of different metals and alloys.

As regards the choice between small and large, obviously large wire is better because it withstands the gales and sleet of winter as well as the wear and tear of time.

Of the bare wires, there is *plain copper.* This wire in No. 14 or No. 12 B. & S. gauge is acceptable for small antennas, since it has good conductivity and sufficient mechanical strength.



Then there is *hard drawn copper,* with excellent conductivity plus greater mechanical strength.

An ingenious combination of steel core and welded copper jacket produces *copper-clad steel,* with the conductivity of copper and mechanical strength of steel. High frequency currents, be it remembered, flow on the surface rather than through the conductor.

The standard antenna wire in commercial and Government work is *stranded phosphor-bronze,* possessing high mechanical strength and good conductivity. *Stranded copper* is amply strong and even a better conductor. *Stranded copper tinned* is sometimes employed because of the ease of soldering joints. Stranded wire will, obviously, withstand stresses better than solid wire.

Plain iron or steel, as well as galvanized wire, should never be used. Aluminum wire is likewise unsuitable, although a former favorite.

Insulated wire, strange as it may seem, is just as good as bare wire. The insulation, whether cotton, rubber or enamel, does not prevent radio waves from inducing current in the antenna, because if the insulation were not present its space would be taken up by air, which is also an insulator. The insulation protects the wire surface and keeps it bright for the delicate currents.

Farm Programs

One-hundred and seventeen representative commercial and agricultural college radio stations are now broadcasting radio programs prepared by the United States department of agriculture. Pennsylvania leads with nine stations broadcasting the department's programs, followed by New York, Texas, California and Missouri. The radio stations are distributed over 38 states and the District of Columbia.

Electrical Housekeeping

The Care of Household Electrical Appliances

By MRS. J. D. LONG
Davis, Calif.

THE care of new housekeeping aids, percolator, iron, etc., is most important. Is it a waffle iron? It must be tempered before it is used the first time, and a paraffin rub is recommended. It is a smoky process, however, and all the windows should be opened.

Turn on the electric current and let the iron heat until it sizzles when tested with a drop of water. Then open the iron and rub it well with paraffin. With the electricity still connected, let it bake for five minutes, then shut off the current. When the iron is cool enough to handle, wipe it carefully with a soft cloth. After the iron is entirely cold wipe again, and then let the iron stand without further attention until it is used.

Never wash an electric waffle iron. Wipe it with a soft cloth, or brush with a soft brush. In a short time the inside of the iron will turn brown, but that is what it should do. It will never give trouble from sticking if the directions given have been followed.

The percolator should be washed carefully every time it is used, and the parts scalded, being careful not to dampen the electrical connection. Coffee absorbs undesirable tastes or odors very readily, thus the necessity of frequent washing. When the percolator is not in use it is well to leave the cover off, and occasionally "perk" clear water in the vessel. Never boil soda water in your percolator to clear out the brown stains. Percolated coffee, it might be added here, is better if started with cold water.

When a griddle or toaster is to be used for the first time, turn on the current and let the article heat for a few minutes. Then turn it off, and after it has cooled, plug in again and start cooking. After the first using, neither griddle nor toaster requires special care other than careful wiping and brushing. Do not disturb them while the wires are red hot. If anything burns and runs down onto the wire, leave the current on until the substance is burned dry. Then turn off the heat and brush the wire after it is cold.

Care of Iron

An electric iron requires very little care, but should be kept in a dry place to prevent rusting. If it does begin to rust, rub the surface with a little oil—not kerosene. It is better to break the electrical connection on an iron at the convenience outlet, not at the iron.

If an electric oven is lined with an aluminized surface it should be brushed about once a week with a cloth saturated with salad oil or olive oil. Vacuum cleaner brushes should be cleaned every time they are used, and the cleaner itself oiled as instructed by the manufacturer. Winding the cord around the place provided for it on the handle will make the cord last much longer than if it is just tossed down in a heap.

The reflector of an electric heater should be kept well polished. If it is allowed to become dusty or rough with dirt the heat is absorbed instead of given off.

What title for the Cover?

ELECTRICITY ON THE FARM offers a $25.00 cash prize for the best title for the picture shown on the cover of this issue (May).

RULES OF CONTEST

1. Contest closes June 5.
2. Contestant must be a farmer or a member of his family *living on the farm.*
3. More than one title may be submitted.
4. In case of a tie, each winning contestant will receive $25.00.
5. Print plainly your name and address, and send your suggestion to Title Editor, ELECTRICITY ON THE FARM, 225 West 34th Street, New York, N. Y.
6. The winner for May will be announced in ELECTRICITY ON THE FARM for July.

Here's the Winning Title for March

A-Range to Discharge Drudgery
Submitted by Mrs. Menzo Lloyd, Weston, Pa.

IT IS no easy task to pick from nearly 5,000 separate titles the one which seems to fit the picture best, yet that is the task the Editor had on his hands as the result of our invitation on the front cover of the March issue.

Quite a number submitted similar or like titles, and many of the titles sent in were so ingenious that it was indeed difficult to pick from the group the one which seemed to fit the rules of the contest and to express the subject of the cover design most effectively.

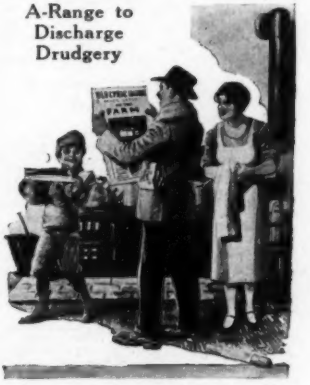
The one finally chosen is as follows:

A-Range to Discharge Drudgery

It was submitted by Mrs. Menzo Lloyd, of Weston, Luzerne Co., Pa.

Quite a number of the titles were built around "farm relief" and were indeed cleverly arranged.

A-Range to Discharge Drudgery



Others were in the form of jingles, a very acceptable type of title.

We hope that all our readers who submitted titles will agree with us that the one selected best fits the subject and is entitled to the prize.

Honorable Mention

Among those submitting titles, the following deserve honorable mention for their contributions, and we hope all listed below as well as those not listed will try their hand at writing titles for future cover pictures on ELECTRICITY ON THE FARM.

ARK.: Mrs. J. W. Mitchell, Bearden; Mr. B. McKinney, El Dorado; Mrs. F. O. Pledget,

Fordyce; Miss J. M. Nash, Little Rock; Mr. E. Wewers, Little Rock; Mrs. P. G. Cummings, Stuttgart.

CALIF.: Mrs. M. F. Lowe, Standish.

CONN.: Mrs. E. A. Babbitt, East Killingly; Mr. E. A. Wheaton, Killingly.

FLA.: Mrs. H. E. Coleman, Coleman; Mrs. S. Dane, Homestead; Mr. Dan. McElrath, Wildwood.

IDAHO: Mrs. E. J. Burkdoll, Eagle; Miss G. Nicholson, Filer; Mrs. T. S. Nicholson, Filer; Mrs. W. E. Siefford, Filer; Mrs. H. E. McMillan, Jerome; Mrs. F. Kyte, Weiser.

ILL.: Mrs. Wm. Cording, Elizabeth; Mrs. A. Leman, Metamora; Mr. F. H. Palmer, Metamora; Mrs. A. Panzer, Mundelein; Miss F. Beer, Roanoke; Mr. J. Beer, Roanoke; Miss J. Beer, Roanoke; Mr. L. Beer, Roanoke; Miss M. Beer, Roanoke; Mr. R. Beer, Roanoke; Miss R. Beer, Roanoke; Mr. Wm. Beer, Roanoke; Mrs. A. J. Ernest, Warsaw.

IND.: Mr. G. R. Burdsal, Madison.

IOWA: Miss J. Bellon, Fairfax; Mr. R. Hoxie, Monticello; Miss W. Claerbout, Perkins; Miss V. Nelson, Peterson; Mrs. S. J. Verges, Prairie City; Mrs. J. Boddicker, Watkins.

KAN.: Mr. H. R. Moore, Merriam; Mrs. L. Alexander, Ottawa; Miss G. Featherston, Quenemo; Mr. D. Means, Wichita.

KY.: Mr. F. Woosley, Cecilia; Mrs. M. Hampton, Goshen; Mrs. C. F. Bryan, Jeffersontown; Mrs. R. V. Brumfield, Lexington; Mrs. Claymoore, Lexington; Miss L. Short, Lexington; Mrs. C. S. Proctor, Morganfield.

LA.: Mrs. M. Futrell, Choudrant; Mr. I. R. Hogan, Choudrant; Miss V. Kidd, Choudrant; Mrs. J. H. Hearne, Haynesville; Miss S. Hearne, Haynesville.

ME: Miss A. Fortin, Auburn; Mrs. G. Hayes, Auburn; Mr. C. A. Niles, Auburn; Mr. W. F. Sargent, Auburn; Mrs. W. T. Schoppe, Auburn; Mrs. R. A. Clark, Brooks; Mrs. H. Boyden, Brunswick; Mr. O. H. Merrill, Dover-Foxcroft; Mrs. W. H. Brookings, Gardiner; Mr. E. A. McCool, Sabbathday Lake.

MASS.: Mrs. A. C. Whittemore, Ashland; Mrs. A. R. Davis, Bedford; Mr. L. Volk, Dedham; Miss M. Poules, Hubbardston; Miss M. Poules, Hubbardston; Miss M. E. Welch, Petersham; Mrs. M. Ormsbee, Seekonk; Mrs. F. L. Young, South Lincoln; Mrs. A. R. Ormsbee, Swansea; Mr. W. B. Martin, Weston.

MICH.: Mr. P. A. Bross, Ann Arbor; Mrs. Wm. E. Frey, Ann Arbor; Mrs. B. Gensley, Ann Arbor; Mr. P. A. Jedell, Ann Arbor; Miss K. Miller, Ann Arbor; Mr. W. Brandt, Azalia; Miss J. DeSmet, Birmingham; Mr. N. L. Baker, Carleton; Mr. E. C. Bird, Clarkston; Mr. S. J. Walter, Clarkston; Mr. D. Kaoffold, Constantine; Mrs. C. Woehlert, Lenox; Mrs. E. Henderson, Memphis; Mrs. H. J. Collard, Menominee; Mrs. C. Anten, Milan; Mrs. H. Card, Mt. Clemens; Mr. A. Hood, Mt. Clemens; Miss E. Hood, Mt. Clemens; Mrs. R. Card, New Haven; Mrs. A. M. Nunneley, New Haven; Mr. W. Rossman, Pontiac; Mr. C. W. Lapp, Richmond; Mr. M. Bearce, Rochester; Mr. P. F. Kueter, Saline; Mr. M. Chapman, So. Rockwood; Miss A. Felt, Waltz; Miss L. Hulett, Waltz; Mr. L. Olds, Ypsilanti.

MINN.: Mr. R. L. Roch, Akeley; Mrs. J. Esterly, Albertville; Miss V. Eckland, Askov; Mrs. C. Frederiksen, Askov; Mr. M. Hydeen, Atwater; Miss E. Sandquist, Barnlem; Mr. F. R. Kogle, Braham; Miss C. Frederikson, Cobden; Mr. E. R. Kern, Faribault; Mr. M. D. Horrom, Farmington; Mr. E. A. Broderick, Graceville; Mr. A. H. Westburg, Hopkins; Mr. H. J. Nylund, Iron; Mrs. N. Sundeen, Isanti; Mr. A. Marguardt, Janesville; Miss S. Marguardt, Janesville; Mrs. A. A. Wilson, Janesville; Mr. D. Klindworth, Lake City; Miss M. Vomastek, Lake City; Mr. L. Schneider, Lake Elmo; Mr. C. Norr, Little Falls; Miss E. Hauzen, Lyle; Miss H. Coombs, Maple Lake; Miss M. Wright, Montrose; Miss R. M. Stubblefield, Morton; Mr. A. J. Nathe, New Munich; Mr. C. R. Sorem, Northfield; Mr. O. Michael, Ogilvie; Miss A. Hartle, Owatonna; Mrs. Hartle, Owatonna; Miss L. Hartle, Owatonna; Miss L. Hartle, Owatonna; Mr. W. P. Hartle, Owatonna; Mr. I. J. Alson, Taylors Falls; Mrs. I. Pearson, Taylors Falls; Mrs. C. J. Street, White Bear Lake; Miss G. Hofschuite, Zumbro Falls; Mr. C. Mark, Zumbrota; Mrs. W. W. Hayman, Zumbrota.

MO.: Miss R. Pragman, Alma; Miss A. Wagner, Alma; Miss O. Pomie, Columbia; Mr. T. A. Hensley, Pevely.

NEB.: Mrs. G. Thomsen, Benson; Mr. E. Lieber, Fort Crook; Mr. F. Tiedemann, Omaha.

N. H.: Mr. D. L. Harmon, Madison; Mrs. R. E. Harmon, Madison.

N. J.: Mrs. J. R. Burk, Beverly; Mr. G. W. French, Bloomfield; Miss L. Johnson, Bordentown; Mr. H. J. Reiners, Little Falls; Mr. E. Van Middlesworth, Middlebush; Mr. J. A. Powelson, Pluckemin; Mrs. J. R. Bullman, Rahway; Miss G. I. Fischer, Riverside; Miss F. Harnes, Westville; Mrs. H. D. Pyle, Westville.

N. Y.: Mrs. C. Minner, Altmar; Mrs. A. Spink, Attica; Mr. G. Wild, Attman; Mrs. L. Hamilton, Auburn; Mr. F. Martin, Avon; Miss M. Garrison, Balston Lake; Mrs. L. W. Townsend, Bemus Point; Mr. H. Reed, Bockport; Mrs. C. C. Stanley, Brooktondale; Mr. M. Carpenter, Camillus; Mr. J. M. Churchill, Canastota; Mr. L. Johnson, Cattaraugus; Mrs. W. J. Craw, Chili; Mrs. E. C. Swezey, Clinton Corners; Miss. C. W. Carpenter, Clintondale; Mr. G. W. Skeele, Clockville; Mrs. E. L. Rice, Clyde; Mrs. L. T. McDowell, Coldwater; Mrs. J. H. Babinger, Collins; Mrs. R. Potter, Collins Center; Mrs. C. F. Myers, Darien Center; Mr. R. Welker, Darien Center; Mrs. R. Welker, Darien Center; Mr. W. J. Welker, Darien Center; Miss V. Kinney, Depeyster; Mr. E. Crandell, Dewittville; Miss M. Weigel, Dunkirk; Mrs. B. Goodfellow, East Durham; Miss M. Bult, East Palmyra; Mrs. C. Graboske, East Syracuse; Mr. R. B. Smith, East Syracuse; Mrs. H. Price, Elbridge; Mr. M. Hooper, Esopus; Mr. W. Hooper Esopus; Mrs. C. Wickstrom, Falconer, Mrs. F. J. Steere, Flycreek; Mrs. M. C. Bell, Fort Plain; Mrs. R. C. Smith, Fort Plain; Mrs. G. Jones, Geneva; Mr. T. L. Rutherford, Gouverneur; Mr. M. V. Whalen, Great Valley; Mr. L. Castrechino, Greece; Mr. M. Bell, Greenwich; Miss L. MacMullen, Greenwich; Mrs. W. S. MacMullen, Greenwich; Miss J. E. Slocum, Greenwich; Miss K. Clearwater, High Falls; Mr. G. Patti, Highland; Mrs. J. Wells Weaver, Highland; Mr. M. E. Pattee, Hilton; Miss B. Brown, Hinsdale; Mrs. E. R. Davis, Horseheads; Mrs. V. L. Berg, Jamestown; Mr. J. Ecklund, Jamestown; Miss P. Craw, Jamesville; Mrs. L. Werner, Jordanville; Mr. D. Higgins, Kendall; Mrs. F. W. Kukuk, Kingston; Mr. J. McCreery, Kingston; Mrs. A. V. Andrews, Knowlesville; Mrs. E. Elsom, Knowlesville; Mr. R. E. Steele, Lacona; Mrs. V. Gates, La Fayette; Mr. R. Burger, Lake Katrine; Mr. G. Hoskins, Levanna; Mrs. Wm. Shean, Liverpool; Miss D. C. Beecher, Livonia; Miss M. Thomas, Manlius; Mrs. S. B. Wygant, Marlborough; Mrs. M. H. Thompson, Mayville; Mr. C. Allis, Medina; Mrs. F. F. Black, Modena; Miss V. Cortright, Morton; Mrs. W. Shaw, Mountainville; Miss A. Uber, Myers; Mrs. F. Krakau, Nedrow; Mr. A. H. B. Shultes, Modena; Mr. R. L. Oaks, North Rose; Mrs. W. Spohn, Nunda; Miss B. Van Deventer, Nunda; Mr. C. Van Deventer, Nunda; Miss R. J. Hall, Ogdensburg; Mr. C. Davis, Olive Bridge; Mrs. M. H. Chadeayne, Ossining; Mrs. T. D. Grant, Oswego; Mrs. J. W. Donnelly, Phelps; Mr. C. Crandall, Portland; Miss E. P. Champney, Pulaski; Mr. J. R. Champney, Pulaski, Mrs. G. Beutel, Ransomville; Mr. R. Beutel, Ransomville; Mrs. C. H. Jeffrey, Ransomville; Miss G. Jeres, Ransomville; Miss N. Truesdale, Ransomville; Miss M. Racette, Redford;

SHEAR

ELECTRICALLY!

STEWART-STOCKMAN ELECTRIC SHEARING MACHINE

—powerful, smooth-running—quiet—gives years of lowest cost service. Uses any current from socket, or lighting plant. Quickly pays for itself. Can also be had for clipping!

SHEEP AND GOAT SHEARING MADE EASY. Power turned on or off with through-switch in easy reach of shearer on 15-ft. extension cord. Stewart No. 7 ball-bearing hand piece used by thousands. Cool-running and fast.

USE EITHER AS HANGING OR PEDESTAL TYPE. Belt drive insures smooth, quiet transmission. The heavy duty motor will run Separator, Churn, Washing Machine, Pump, etc.

Ask Your Dealer or Write for Free Catalog

CHICAGO FLEXIBLE SHAFT CO.
Dept. 140
5524 W. Roosevelt Rd.
Chicago

38 Years Making World's Best Shearing and Clipping Machines.

You May Own a Free Morrow

ALWAYS A DAY AHEAD

Under our Guarantee "Club Plan" you have the opportunity of being the first in your locality to get a Morrow Cleaner Free. Also convenient terms to your neighbors.

No Other Cleaner Like the Morrow

Established since 1911 the Morrow holds an enviable record of performance. Cleans easy without much effort. Sturdily built and requires no attention. Always ready for use. This is your opportunity to get a Morrow Cleaner Free, but you must act promptly. Particulars free. Write Today.

THE MORROW CO.
326 W. Madison St.
CHICAGO.
Dealers Wanted

Wash Day Slavery

is leaving the farm

With General Electric Motor

NEVER was a task so tiresome and back-breaking as the task of bending over a washboard for hours each week.

Farm women demanded relief from this drudgery—and electricity came to do the work in less than half the time—at a cost of about 5 cents an hour.

Now—the originator of the electric washing machine offers farm women the fastest, most modern washing machine on the market. It does *all* the work. It washes a tubful of clothes clean in 5 minutes. It has fewer moving parts than any washing machine on the market. No belts to slip and break—nothing to get out of order.

This is a Thor washer—of lifetime Thor quality. And it's the lowest-priced quality washing machine on the market.

For complete information on this new washer—and the complete line of Thor labor-saving laundry equipment—write to

THE HURLEY MACHINE CO.
22nd Street and 54th Avenue
Dept. B Chicago, Ill.

Mr. L. C. Boyd, Rio; Mrs. S. C. Rottsted, Rio; Mrs. L. A. Buchin, Rochester; Mrs. J. Dietz, Rochester; Mrs. C. Kort, Rochester; Mrs. B. H. Truax, Rossie; Mrs. G. Hetzer, Rush; Mrs. W. D. Van Wagner, Salt Point; Mr. J. J. Cox, Saugerties; Mrs. E. Fatum, Saugerties; Mr. H. A. Lamouree, Saugerties; Mrs. C. Mais, Saugerties; Mrs. Wm. Smead, Seneca Castle; Mr. F. J. Riley, Sennett; Miss G. L. Riley, Sennett; Miss V. Dixson, Schaghticoke; Mrs. F. Wells, Scottsville; Miss E. J. Cady, Sherman; Mr. H. Wall, Skaneateles; Mrs. C. A. Best, Slocksville; Mr. R. Drew, South Cuba; Mrs. A. P. Welford, Spencerport; Mr. J. Worland, Spencerport; Miss D. Evans, Springville; Mr. M. D. Connors, Stanley; Mrs. R. Wheeler, Taberg; Mrs. M. E. Tufts, Verona Station; Mr. J. Dodd, Wallkill; Mr. P. E. J. Ostrander, Wallkill; Miss R. Chouiniere, Waterford; Mrs. B. Emerson Devitt, Waterford; Mrs. A. J. Van Ingen, Webster; Mr. V. Schultz, West Henrietta; Mrs. A. Fyvor, Wolcott; Miss Mann, Woodstock; Miss C. Bingham, Worcester; Mr. D. Rottger, Youngstown.

N. D.: Mr. L. Wylder, Cathay; Mr. M. Overland, Harvey.

OHIO: Mrs. H. W. Mong, Barberton; Mrs. L. Reiter, Chardon; Mr. E. C. Lehmans, North Lima; Mr. C. Wolfgang, North Lima; Mrs. H. Farnbauch, Suffield; Mrs. R. D. Kingsby, Tyrrell.

ORE.: Miss D. Miller, Aurora; Miss E. Miller, Aurora; Mr. H. Smith, Aurora; Miss D. Hughes, Baker; Mr. T. Durgan, Clackamas; Mr. S. Wright, Clackamas; Miss L. Wallace, Donald; Mr. L. Delaplain, Houlton; Miss N. Kropf, Hubbard; Mrs. E. Miller, Hubbard; Mr. W. Miller, Hubbard; Mrs. C. Kiddle, Island City; Mrs. A. E. Zimmerman, Salem; Mr. F. Levin, Warren.

PA.: Mr. J. Hauck, Clearfield; Miss A. Berkey, Elton; Mr. R. E. Grames, Erie; Mrs. L. H. Moulton, Fairview; Mr. J. W. Meyer, Fredericksburg; Miss C. Redding, Gettysburg; Mr. L. Yzermans, Girard; Mrs. C. H. Batteiger, Greenville; Miss I. Beck, Greenville; Mrs. E. J. Herr, Hanover; Mr. A. G. Glenn, Hellwood; Mrs. W. W. Goss, Hillsdale; Mrs. J. T. Dorlan, Honey Brook; Mrs. M. E. Weaver, Jonestown; Mr. C. F. Thomforde, Kennett Square; Mrs. S. H. Bomberger, Lebanon; Miss E. Snavely, Lebanon; Mr. C. Moyer, Line Lexington; Mr. H. Rudier, Linesville; Miss A. Swey, Linesville; Mr. H. E. Dunkelberger, Mechanicsburg; Miss P. Frantz, Montgomery; Mr. K. W. McFarland, New Wilmington; Miss R. Ahlgrim, North East; Miss E. M. Koch, Reading; Mr. W. E. Jumper, Russell; Mrs. D. J. Larimer, Russell; Miss S. Persch, Sharon; Rev. S. L. Allaman, Shippensville; Mr. H. L. Sprouesser, Shoemakersville; Mrs. C. S. Chapman, Spring Creek; Mr. A. Gourley, Sugar Grove; Miss A. M. Lilley, Uwchland; Mrs. C. Baker, Warren; Mr. H. Krasnesky, Waterford; Mrs. E. M. Foster, Wattsburg; Mr. F. Le Patourel, West Grove.

S. DAK.: Miss I. Dement, West Sioux Falls.

TENN.: Mrs. G. E. Everhart, Persia; Mrs. G. C. Everhart, Persia.

TEX.: Mr. M. Walker, Bastrop; Mrs. J. L. Porter, Cotulla; Miss O. Sawyer, Dauson; Mrs. J. L. Mayes, Ector; Mrs. J. Justiss, Howland; Mrs. J. W. Holmes, Josephine; Mr. G. Wilkins, Krum; Miss K. Slaughter, Martindale; Mr. A. W. Sanders, Murchison; Miss G. McGlothlin, Palacios; Miss M. Cage, Pearsall; Mr. J. W. Seaborn, Ponder; Mr. G. Vaught, Rockwall; Mrs. C. C. Pierce, Savoy; Mrs. J. Moore, Waco.

VA.: Mr. D. D. Shenk, Denbigh; Mrs. E. N. Gowl, Harrisonburg; Miss E. Hopkins, Wise.

WASH.: Mr. P. M. Sold, Coupeville; Mr. B. Pratt, Curtis; Mrs. H. L. Redward, Everett; Mrs. D. Dodd, Kirkland; Miss E. Capaan, Oak Harbor; Mrs. W. B. Hundley, Port Blakeley; Mrs. S. A. Wainwright, Puyallup; Mrs. A. Bottemiller, Ridgefield; Mr. O. Widell, Rochester; Miss F. B. Chambers, Roy; Mrs. J. Spanjer, Roy; Mrs. D. P. Rager, Sumner; Mr. C. T. Colt, Vancouver; Miss G. G. Pottenger, Vancouver; Mr. C. R. Whipple, Vancouver; Mrs. J. A. Lechner, Washougal; Miss A. Nelson, Winlock; Miss E. Steph, Woodland.

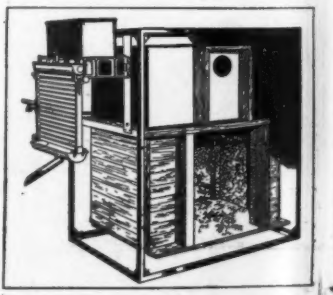
W. VA.: Mr. H. G. Mayes, St. Albans.

WIS.: Mrs. F. B. Demerath, Appleton; Mr. A. C. Fletcher, Appleton; Miss G. Glaser, Appleton; Miss L. Toll, Benlin; Miss H. Hopks, Berlin; Mrs. J. Meyer, Birnamwood; Mr. W. A. Blake, Black Creek; Mr. G. Brehmer, Clintonville; Mr. R. Ruppert, Colby; Mr. H. Wright, Columbus; Mrs. A. Kitzman, Ft. Atkinson; Mrs. H. Lalk, Fort Atkinson; Mrs. F. Ludeman, Fort Atkinson; Miss L. L. Lohrenz, Hortonville; Miss E. C. Peters, Jefferson; Mrs. A. Nels, Juneau; Mrs. R. A. Moore, Oconomowoc; Mrs E. M. Peterson, Oconomowoc; Mrs. A. F. Roth, Oconomowoc; Mrs. P. Holsworth, Poysippi; Mrs. J. Bueholz, Ripon; Miss E. M. Greb, Seymour; Mr. B. Debbink, Sheboygan Falls; Mrs. S. B. Simons, Sullivan; Mr. D. Scott, Walworth; Miss A. Welhert, Watertown; Mr. M. Welhert, Watertown; Mrs. C. Koehler, West Bloomfield; Mrs. W. C. Thompson, Whitehall; Miss M. Bork, Whitewater; Mrs. N. Bork, Whitewater; Mr. A. R. Cooper, Whitewater.

This is the Way!

In the April issue of ELECTRICITY ON THE FARM, page 11, the cut below appeared upside down, due to a last minute change on the part of the printer.

Did our readers discover the slip? They certainly did! We're



still receiving letters at this late hour calling our attention to the inversion. Such friendly interest is appreciated indeed.

Incidentally, the illustration shows a skeleton view of the dry type milk cooler.

LAUSON Water Systems

The Electric Jack

Will convert your ordinary pump into a supply unit, controllable from the house, that will deliver all the water wanted—deep or shallow well.

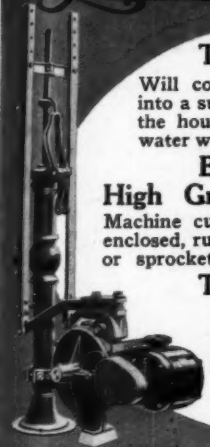
Built Like a High Grade Transmission

Machine cut hardened gears, fully enclosed, running in oil. No chains or sprockets—high grade motor.

The Pumping Head

A neat, sturdy job in all customary variations, specially designed for use with the Lauson Jack.

Write for Special Literature



The John Lauson Mfg. Co. 700 Michigan St. Menomonie, Wis.

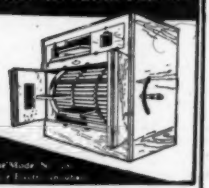
HATCH WITH ELECTRICITY

POULTRYMEN AND FOWL COMPANIES INTERESTED IN

"Looking into the Future"

Should request this NEW Petersime Incubator Catalog.

ELLINGTON SMITH COMPANY

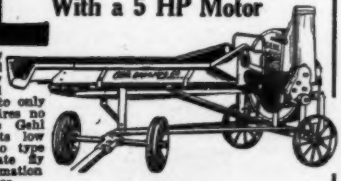


BROOD WITH ELECTRICITY

GEHL

SILO FILLER With a 5 HP Motor

A Combination that has surprised many by its economy and practical features. Fill your own silo when your corn is ready with the help you have on your farm and set the silo full. Power charge amounts to only from $3 to $5 per silo and a motor requires no attendant, saves one man's time. The Gehl Cutter requires less power because of its low speed, is absolutely self-feeding, has auto type gear shift, all gears in oil, boiler plate fly wheel, ball bearings. Write for full information about cutter and running with HP motor.



GEHL BROS. MFG. CO., 449 So. Water, West Bend, Wis.

Sparks and Chaff

Scott's Latest Work

The professor had just finished an evening talking on Sir Walter Scott and his works when a lady said: "Oh, professor, I have so enjoyed your talk. Scott is a great favorite of mine."

"Indeed," said the professor, "what one of his books do you like best."

"Oh," answered the lady, "I haven't read any of his books, but I am so fond of his Emulsion—I've used a lot of that."

Precaution

Foreman—"Pat, you had no right to touch that wire. Don't you know you might have been killed by the shock?"

Pat—"Sure. I felt it carefully before I took hold of it."

More Comfortable

Executioner (to condemned man in chair)—Is there anything you want before I turn the juice on?

Condemned—Yeah—loosen the laces on my left shoe; my corns are achin'.

Installment Plan

"My dear," said the old man tenderly, "today is our diamond wedding, and I have a little surprise for you!"

"Yes?" said the silver-haired wife.

He took her hand in his. "You see this engagement ring I gave you seventy-six years ago?"

"Yes?" said the expectant old lady.

"Well, I paid the final installment on it today, and I am proud to announce that it is now altogether yours!"

The Radio Bug

"Do you carry B-eliminators?"

"No, sir, but we have roach powder and some fly swatters."

—*Life.*

"I vant some powder."

"Mennen's?"

"No. Vimmen's."

"Scented?"

"No, I vill take it mit me."

Doctor (to fair patient): "You certainly have acute appendicitis."

Fair Patient: "Oh, Doctor, you flatter me."

To Keep Them on the Farm

The Expert Statisticians mark it Problem Number Umpty-Two;
Professional Foreboders look —and cry that Ruin's overdue;
Our Statesmen are agreed on all—except just what they ought to do
To keep the Girls, and Boys down on the Farm.

That Jane, and Johnny should be like their Cousins of the City,
In wanting what we call "Good Times" is certainly a Pity.
"For Heaven's sake, do something!" is the Cry of the Committee
For Keeping Girls, and Boys Down On the Farm.

The Answer is quite easy: just equip the Old Home Nest
So one need but Push the Buttons—and the "juice" will do the rest.
Electric Lights, Washing-Machines, Flat-Irons and Fans are best
For keeping the Girls down on the Farm.

A "Great White Way" in house and barn for the Gloom once they knew;
Hair-Curlers, Toasters, Coffee-Pots a finger-touch turns to,
Will make the Girls content to Stay—you'll see what they can do
'Bout keeping all the Boys down on the Farm.

R. E. ALEXANDER

A Book on Electric Farming

A new book has just appeared on the market in England on the application of electricity to agriculture. It is entitled "Electro Farming" and is the work of the foremost British authority on the subject, Mr. R. Borlase Matthews.

Mr. Matthews has a world-wide reputation for practical research work on his own estate at East Grinstead, England, and occupies a unique position as an expert in electricity and successful farming. In "Electro Farming" Mr. Matthews outlines very fully just the status of the application of electricity to agriculture in England and Europe as well, giving full details on those applications which have proven successful and providing a great deal of information on other uses which may be developed in the future.

In the introduction to "Electro Farming" Mr. Matthews says: "Only recently it has been realized that, if properly handled, the total farm and rural demand for electric current would be greater than that of the present consumption of all urban districts, including the industries, in any country. Agriculture is the greatest industry of any nation. Indeed, the ultimate wealth of any community is entirely dependent upon its success in agriculture. In every country, more people are employed in agriculture than in any other single industry.

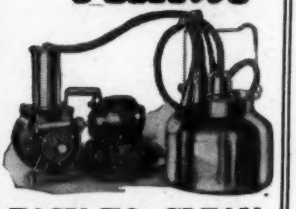
"Electricity is so efficient a form of power that no enterprising farmer can afford to neglect a study of the possibilities opened by it. Whereas it is a mistake to imagine that electricity is the panacea for all the ills from which the industry suffers, electricity is certainly going to be an important factor in its ultimate salvation."

To students on rural electrification, "Electro Farming" is commended. It is published by Messrs. Ernest Benn Limited, Bouverie House, 154 Fleet Street, London, E. C. 4, and retails for 15 shillings.

The use of an apple sorter and grader is fast becoming a necessity in any section where the apple growers expect to meet competition from Western and Southern growers. One grader commonly used has a capacity of about 200 packed boxes a day (9 hours) with experienced help.

Fords $100 Single Unit Complete

Milker



EASY TO CLEAN

You can produce cleaner milk with Fords Milker than by hand milking. See article in this copy of Electricity on the Farm, telling how quickly and easily you can keep Fords Milker clean. Strongly, solidly made. Easy to operate. Cows like its gentle soothing action. Many sizes.

Send for booklet No. 74 FREE

Distributors Wanted: Fine opportunity for Merchants and Farmers.

MYERS-SHERMAN COMPANY
213 N. Desplaines St. Chicago, Ill.

Soldering

requires the proper iron

We guarantee the WARD No. 168 Electric Soldering Iron (advertised last month at $2.00) for **general work**, but other WARD Irons are more specially built for **heavy duty** repair jobs. There is a WARD iron for every kind of soldering — let us help you select the type that will have the longest life on your kind of work. It will be your cheapest investment in the long run.

Ward "Heavy Duty" Irons draw from 110 to 275 watts at 110 volts, and range in price from $6.00 to $10.00. They will deliver years of satisfactory service on jobs where lighter irons often handicap good workmanship. The best work can always be done most quickly and cheaply with the proper tool.

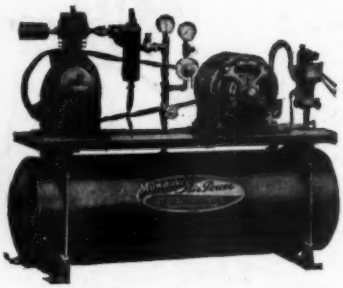
WARD Irons plug right into your light socket. Heating element guaranteed not to burn out. Handle stays cool. All parts thoroughly insulated.

Approved by Underwriters' Laboratories

Ask your dealer or power company to show you the complete WARD line. Where there is no WARD dealer, we will gladly deal with you direct. Write for free illustrated circular.

WARD MFG. CO., Inc., 939 Wellington Ave., Chicago, Ill.

Pump Your Water by Electricity



The Milwaukee Air Power Water System supplies complete water service from well, cistern, lake or spring—all with one power plant.

Before buying any system write for our complete literature on Suction Plants, Pump Jacks and Deep Well Systems.

Cut shows our Junior B and C line of electrically-operated systems — furnished with 4-E or 12-E Pump. Capacity 200 to 400 gallons per hour.

MILWAUKEE AIR POWER PUMP CO.
6 Keefe Ave., Milwaukee, Wis.

Send for this Free Bulletin on

"Ensilage Cutters and Single-Phase Motors"

If you have a power line or if one is coming your way — you should have this special Electric Bulletin, also our Papec Cutter Catalog. Both free.

Ask also for literature on Papec Hay Chopping machines or Papec Hammer Type Feed Grinders.

They tell how electric users with proper hook-up have cut silo filling costs to a minimum. You can save money, too. Send for your copies today.

PAPEC MACHINE CO. Dept. E
Shortsville, N.Y.